

## **RESEARCH, EDUCATION, AND ECONOMICS**

### **Statement of Dr. Catherine E. Woteki, USDA Chief Scientist and Under Secretary Before the Subcommittee on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies**

Chairman Aderholt, Ranking Member Farr, and distinguished members of the Subcommittee. I am pleased to appear before you to discuss the activities of the Research, Education, and Extension (REE) mission area of the United States Department of Agriculture (USDA) and to present the President's Fiscal Year (FY) 2016 budget request for the Agricultural Research Service (ARS), the Economic Research Service (ERS), the National Agricultural Statistics Service (NASS), and the National Institute of Food and Agriculture (NIFA).

I am accompanied by the leaders of our four agencies: Dr. Chavonda Jacobs-Young, Administrator of ARS, Dr. Mary Bohman, Administrator of ERS, Mr. Joseph Reilly, Administrator of NASS, and Dr. Sonny Ramaswamy, Director of NIFA. Also with me is Mr. Michael Young, the Director of USDA's Office of Budget and Program Analysis. Each agency has submitted written testimony for the record which provides highlights of their proposed budget.

In his testimony before this subcommittee last week, Secretary Vilsack underscored this Administration's unwavering commitment to strengthening the middle class and helping America's families get ahead. The REE mission area agencies help accomplish this by supporting the critical research our country needs to keep our food supply safe, secure, and abundant, improve nutrition for lifelong health, address climate and energy needs, and ensure sustainable use of natural resources. For example, ARS works to enhance and protect agriculture and to transfer research results to the marketplace where they serve the needs of a wide range of users. By funding research at land-grant universities, as well as other universities and research organizations, NIFA integrates research, education, and extension to ensure that groundbreaking discoveries go beyond the laboratory and make their way to the farms, ranches, classrooms, and communities where Americans can put the knowledge into practice and improve lives. The

economic research and analysis work of ERS guides policy throughout government and provides vital information to consumers, other researchers and the marketplace. Each year, NASS conducts hundreds of surveys and produces accurate, timely, and useful statistical data on commodities comprising 97 percent of US agricultural cash receipts. Farmers and ranchers, governments, commodity markets, businesses, researchers are among those who depend on these statistics to make informed decisions.

With the enactment of the 2014 Farm Bill, the REE agencies—in particular, NIFA—have focused a significant part of the last year in implementing reauthorized programs and new programs and policies. Several of the new farm bill provisions enable USDA to partner with its stakeholders and foster increased collaboration between academia and the private sector. Four specific examples of this are: (1) the matching funds provision which encourages prospective NIFA grantees to partner with land grant universities when applying for a NIFA grant; (2) the new, private, non-profit Foundation for Food and Agriculture Research which must match its initial Federal seed contribution of \$200 million with an equal amount from non-Federal sources before underwriting research; (3) the facilitation of commodity promotion boards' participation in NIFA's signature competitive grants program; and (4) the incentivizing of research consortia to form 'centers of excellence' and apply for selected NIFA grants in a collaborative manner.

Codifying public-private partnerships, as the 2014 Farm Bill has done, ensures that more public funds are leveraged with private sector dollars to make the most of the taxpayer investment. The President's FY 2016 budget request extends the public-private partnership model to a number of new research topics. These include efforts to combat antimicrobial resistance, advancing bio-based manufacturing, and promoting pollinator health. Today, I will elaborate on these and other highlights of the President's budget request.

Mr. Chairman, the President's FY 2016 budget requests a total of \$3.2 billion in discretionary funds for USDA's primary scientific, research, and statistical agencies. The \$1.5 billion for NIFA and the \$1.4 billion for ARS represent the lion's share of USDA's commitment to intramural and extramural agricultural science activities, respectively. The President's budget requests \$86 million for our nation's premiere agricultural economics research agency, ERS and \$180 million for the NASS whose mission focuses on comprehensive data collection in the food and agriculture sectors.

## AGRICULTURAL RESEARCH SERVICE

Some of the key proposed investments of the Agricultural Research Service for FY 2016 reflect the Administration's strong commitment to the many facets of intramural agricultural research.

For example, in the last few years, the issue of antimicrobial resistance has emerged as a serious health threat to both animals and humans. Our understanding of the development and spread of antimicrobial resistance is still incomplete. ARS's budget requests \$30 million which will support the national effort to devise mitigation strategies and develop alternatives to antibiotics. Additionally, USDA has developed an action plan, based on the One Health concept, which takes a voluntary, comprehensive, systems approach to surveillance, research and development, and outreach activities. In implementing this action plan, USDA intends to provide researchers, producers and consumers science-based, quantitative information about drug use and resistance in food animals and their relationship to livestock management practices.

The FY 2016 budget also proposes \$94.4 million for ARS's livestock production program. The research in this program is heavily focused on the development and understanding of the genome and microbiome to enhance our beef, swine, and sheep herds, poultry flocks, and our approaches to aquaculture systems. This investment reflects the Administration's recognition of and commitment to the diversity of agriculture production systems. A recently released report by the National Academy of Sciences, entitled *The Critical Role of Animal Science Research in Food Security and Sustainability* underscores this approach, too.

In addition, ARS's FY 2016 budget includes \$61 million to develop more climate resilient agricultural production systems. With this funding, ARS will develop: (1) tools to enable researchers to evaluate the impact of various climate change scenarios; (2) a knowledge-base on the effects of climate change in different agro-ecosystems; and (3) plant and animal management technologies and strategies emerging from newly gained knowledge. ARS also intends to engage the USDA Regional Climate Hubs to advance regionally-specific mitigation and adaptation technologies. These Hubs, established as public-private partnerships will ensure that farmers and ranchers obtain research-based management strategies and decision tools.

ARS is also requesting over \$20 million to support a multi-agency effort on pollinators. This Pollinator Health Initiative will have a particular focus on the decline of honey bees. The continued loss of commercial honey bee colonies stands to have profound implications

throughout the food and agriculture enterprise. In collaboration with the U.S. Environmental Protection Agency, university scientists, and private sector partners, the Pollinator Health Initiative will make advances in our understanding of the complex factors—like poor bee nutrition, loss of forage lands, parasites, pathogens, and the exposure to pesticides—and provide a path forward to arrest continued pollinator losses.

A final example of ARS's FY 2016 budget request is the \$205.9 million to modernize the Agriculture Research Service's aging infrastructure. This request is for five of ARS's facilities in desperate need of rehabilitation where some of the agency's most critical research is underway. At this committee's request in 2012, ARS established a plan for capital investment based on facility conditions and research priorities. These facilities are located across the country and these much-needed upgrades will go a long way to support high-quality, in-house agricultural research well into this century. This request, based on the results of this study, builds on this committee's commitment of \$45 million in the Consolidated and Further Continuing Appropriations Act of 2015 which begins the crucial work of updating these laboratories. In addition, at this committee's direction in the 2015 appropriations act, ARS is currently working on a similar capital investment strategy relating to ARS and university cooperator space where the cooperator has expressed an interest in relocating ARS scientists to alternate locations.

#### NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

Mr. Chairman, the proposals I have explained so far represent investments in REE's intramural science portfolio. The President's FY 2016 budget request for extramural research, managed by the National Institute of Food and Agriculture, includes \$450 million for NIFA's flagship competitive grants program, the Agriculture and Food Research Initiative (AFRI). AFRI's peer-reviewed grants invest in both fundamental and applied food and agricultural sciences. Research funded by AFRI touches nearly every aspect of our lives; from plant and animal production to food safety, human nutrition, and health.

NIFA's FY 2016 budget request also includes \$20 million for a new competitive grants program for the 1862 and 1890 institutions. This would complement the existing formula grants by recognizing the best research and extension activities of these vital institutions. This new program augments the existing programs by offering competitive grants to qualified multistate research projects.

As part of the Administration's multi-agency initiative to support continued investment and innovation in the manufacturing sector, the President's budget requests \$80 million for two new public-private, bio-based Innovation Institutes. One institute will address innovations in bio-manufacturing and the other institute will bolster innovations of nanocellulosic products and processes. Emerging from the recommendations of a number of recent studies—including a report by the President's Council of Advisors on Science and Technology and the President's National Bioeconomy Blueprint—relating to new ways to kick-start the economy and engage the agriculture industry, these Innovation Institutes seek to strengthen advanced manufacturing, spur innovation, and create new industrial growth in the agricultural sector. These Innovation Institutes are slated to carry out transformative and translational research in partnership with the private sector. More specifically, the goals of the proposed Institutes include the: (1) acceleration of research and development; (2) coordination between market needs and research activities; and (3) setting the stage for rapid commercialization. For the bio-manufacturing institutes, products which could emerge are fuels, plastics, insulation, adhesives, and coatings to name a few. For the nanocellulosic institutes, expectations are that commercial applications will provide value to industrial sectors including electronics, construction, packaging, energy, and defense.

#### ECONOMIC RESEARCH SERVICE AND NATIONAL AGRICULTURAL STATISTICS SERVICE

In addition to the intramural and extramural science agencies, the REE mission area also includes two agencies that focus on research analysis and statistical data collection and reporting. The Economic Research Service and the National Agricultural Statistics Service not only support USDA agencies' data needs but also those of producers, policymakers, markets, and consumers.

The President's FY 2016 budget request for the Economic Research Service includes an additional \$1 million for analysis relating to new farmers and ranchers. ERS will examine the barriers to entry for beginning farmers and ranchers to help understand strategies of success for farmers and where USDA programs can make the greatest impact.

Additionally, ERS's FY 2016 budget request includes an increase of \$1 million for climate risk management by studying how farmers might respond to extreme weather events.

The FY 2016 budget proposal for the National Agricultural Statistic Service contains requests to provide for timely, accurate and useful statistics in service to U.S. agriculture. Like other statistical agencies, NASS protects individual sources of information as it gathers them, but is able to present statistically accurate picture of impacts from its studies.

NASS will build on the 2012 Census of Agriculture with follow-on surveys including ones to focus on women, new farmers, and the structure of the modern farm (\$1 million) and another on local foods and how they are produced and how they are marketed and sold (\$2.5 million). The NASS budget request also consists of agricultural estimate surveys that will provide data which will be used by producers and policymakers including the pollinator health survey (\$2.5 million) as part of the multi-agency Pollinator Health Initiative.

Mr. Chairman, these are highlights of the many activities the REE mission area agencies are proposing for fiscal year 2016. At the same time, we are cognizant that none of this great work happens alone. The word ‘partnerships’ has become popular in recent years and many of the initiatives presented in the President’s FY 2016 budget request for the REE mission area embrace this concept.

Finally, I would like to highlight one other collaboration. This year, 2015, provides USDA the opportunity to celebrate the 125th anniversary of the Second Morrill Act which established historically black land grant colleges and universities. Our enduring partnership with the ‘1890 institutions’ has served as a catalyst for economic development in underrepresented, and often times rural, communities which have provided access to higher education, as well as the dissemination of the latest strategies and technologies based on agricultural research through Cooperative Extension through education.

Mr. Chairman, the REE agencies look forward working with you and the other members of this Subcommittee to press ahead on the many challenges—and opportunities—that lie before us in the coming months and years.

I would be glad to answer any questions at this time.